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GOLDEN HARVEST

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PIONEER HYBRIDS

For North Central and Southern Iowa
1940 PLANTING

PIONEER *First Commercial*

● The Pioneer Hi-Bred Corn Company, which traces directly back to the pioneers of hybrid corn who started their breeding work in 1913, devotes its resources to the breeding, production and marketing of practical corn hybrids which can be depended upon to make a good yield, stand up under adverse weather, and mature properly.

Pioneer follows five important steps in carrying out this program: first, sound corn breeding; second, rigid performance testing of all new hybrids; third, thorough detasseling; fourth, careful processing; and, fifth, direct-to-farmer marketing.

SOUND CORN BREEDING—Pioneer corn breeders practice sound, time-tested breeding principles. They work with the cream of inbred strains . . . for, besides experimenting with their own superior inbred lines, which are increased in number year after year, they have access to all inbreds released by State Experiment Stations and the U. S. Department of Agriculture.

Pioneer corn breeders maintain the purity of these inbred varieties and, with them, carry on an unceasing experiment to develop better, more practical hybrids.

About one thousand new experimental hybrids are produced each year, very few of which ever become commercial hybrids. This year, the breeding program required over 350,000 individual hand-pollinations.

Through extensive research and superior corn breeding, Pioneer customers get hybrids that stand up against bad weather conditions; hybrids that hold their ears well; hybrids that are adapted to both hand and mechanical picking; and hybrids that produce a good crop of ripe, deep kernel, small cob ears which generally overrun crib measurements when shelled.

PERFORMANCE TESTING—Each experimental hybrid which shows outstanding qualities undergoes a performance test. Before Pioneer corn breeders give it a variety number and produce it for commercial growing, the new hybrid must prove by actual field production its ability to withstand nature's severest planting and growing hazards . . . cold, wet spring weather; wet seasons; drought conditions; wind storms . . . and it must mature.



- MAKING A HAND-POLLINATION
- TESTING FOR YIELD PERFORMANCE
- DETASSELING SEED FIELDS



Producer of Hybrid Seed Corn

THOROUGH DETASSELING—Every Pioneer seed field is grown under the Company's supervision . . . each field is isolated according to state regulations, and detasseled from 14 to 20 times. Experienced supervisors direct the hundreds of men who detassel these Pioneer seed fields. Only thorough detasseling work keeps the hybrid crosses pure. Pure hybrid crosses mean better seed and bigger crops for the corn grower.

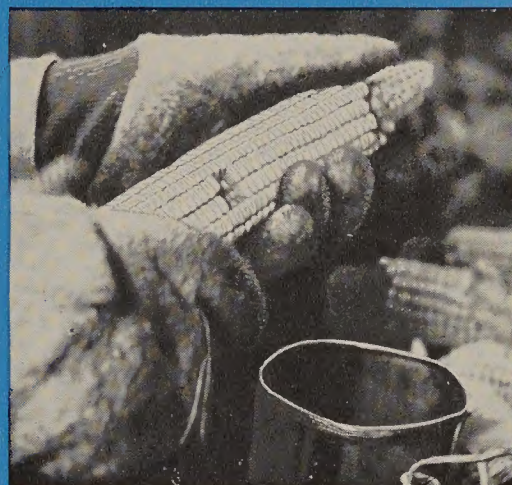
CAREFUL PROCESSING—Pioneer hybrid seed is picked before the first damaging freeze occurs, then processed with efficient equipment and improved methods many of which are used only by Pioneer. Every phase of processing . . . sorting, drying, shelling, grading, treating, and sacking . . . is carried on in adequately equipped plants which are operated by trained men. The experience of years goes into every sack. Properly processed, uniformly graded hybrid seed makes planting easier, and produces a good, even stand of healthy corn.

All Pioneer hybrid seed corn is yellow in color; dried to 12% moisture content; shelled; graded into uniform kernel sizes; treated with mercury dust; carefully tested for germination; sacked and sealed in trade-marked bushel bags that are stamped with specific hybrid variety numbers; and ready for planting.

DIRECT-TO-FARMER MARKETING—Pioneer hybrid seed is marketed directly to farmers through representatives who are, almost without exception, farmers themselves.

Practical farmers are picked to represent Pioneer because they know and share the same corn problems that their customers meet. They raise Pioneer themselves and are able to recommend, from first-hand experience, the hybrids best suited for their neighborhoods. Furthermore, they live and farm close to their customers and are always nearby to offer advice and perform personal services.

THOUSANDS CHOOSE PIONEER—Thousands of farmers throughout the cornbelt have discovered the consistent, dependable crops that Pioneer hybrids give. For this reason, Pioneer users have increased from a mere handful in 1926 to many thousands in 1939. These cornbelt farmers demand Pioneer because they want to pocket extra dollars by planting hybrid corn that is bred and processed for performance . . . moreover, they want a corn whose record is based not on one test or one year's results, but on the average of many years' performance under practical farm conditions.



- HAND SORTING INDIVIDUAL EARS
- A PIONEER REPRESENTATIVE
- ONE OF THE MANY PIONEER USERS



Pioneer Hybrid Maturity

● Pioneer hybrids recommended for the North Central section and the Southern half of Iowa are classified under three groups: (1) early maturing, (2) medium maturing, and (3) late maturing. These groupings are made to meet: first, climatic conditions; second, various soil types and conditions peculiar to the North Central section and the Southern half of Iowa; third, date of planting; and, fourth, personal demands of the farmers.

NORTH CENTRAL IOWA

● In North Central Iowa, the early maturing Pioneer Hybrids 357 and 352 should be used for late plantings; for slow soils if planted around May 15th-25th; and for locations where the first freeze occurs unusually early in the fall. Under these conditions, with normal weather, the early maturing hybrids will ripen and produce good, sound corn.

Under average North Central Iowa climate and average soil fertility, any hybrid in the medium maturing group, Pioneer Hybrids 322, 324, 335, 349, and 315, will mature ahead of the average first freeze if planted by the middle of May. None of these hybrids should be planted too late on slow or poor soils.

The late maturing group, Pioneer Hybrids 330, 314, 311, and 311-A, is recommended for very rich or fast soils; for quite early planting on soils of average to high fertility; and for silage or fodder corn. None of these hybrids should be planted late on slow or poor soils.

SOUTHERN HALF OF IOWA

● In the Southern half of Iowa, the early maturing group, Pioneer Hybrids 322, 324, 330, 314, 311, and 311-A, should be used for late plantings; for slow soils if planted around May 15th-25th; and for locations where early freezes are common.

Under normal climate and average soil fertility in the Southern half of Iowa, the medium maturing group, Pioneer Hybrids 307, 317, 331, and 318A, will take full advantage of the entire growing season and mature properly before the average first freeze if planted by the middle of May.

The late maturing group, Pioneer 313 and 332, is recommended for rich or fast soils; for early planting on soils of average to high fertility; and for silage or fodder corn.

The above recommendations are based on average temperature and rainfall for the North Central section and the Southern half of Iowa. These two factors, in abnormal seasons, vary the maturity of corn considerably.

REFER TO PAGE 9 FOR MAP OF IOWA SHOWING THE NORTH CENTRAL AND SOUTHERN SECTIONS



RESULTS OF PIONEER TESTING WORK

NORTHERN IOWA

REFER TO SPECIAL NORTHERN IOWA EDITION OF "GOLDEN HARVEST" BOOKLET FOR TEST RESULTS IN THIS SECTION

NORTH CENTRAL IOWA

Pioneer No.	Years Tested	Yield Bu.	Yield % 322	Moist. % 322	Ear Height % 322	Root Lodging % 322	Stalks Standing % 322
357	5	65.7	89	85	85	130	98
352	2	73.7	100	88	85	110	99
O.P.	5	59.8	81	100	104	186	92
322	5	73.7	100	100	100	100	100
324	3	75.9	103	100	95	90	102
349	1	77.4	105	100	114	131	102
311-A	5	73.0	99	100	110	109	102
335	2	70.8	96	101	78	101	106
311	5	73.0	99	101	106	109	98
315	5	75.9	103	102	106	131	92
330	2	78.1	106	107	91	60	102
314	2	79.6	108	108	122	111	96

SOUTHERN HALF OF IOWA

Pioneer No.	Years Tested	Yield Bu.	Yield % 307	Moist. % 307	Ear Height % 307	Root Lodging % 307	Stalks Standing % 307
322	3	68.0	92	89	87	99	100
324	3	68.0	92	88	90	100	100
315	5	70.9	96	92	94	121	97
311-A	4	64.3	87	93	95	114	99
311	5	65.8	89	94	98	103	98
314	5	71.7	97	95	99	100	98
330	1	73.2	99	96	56	87	113
317	4	72.4	98	98	95	101	102
331	2	70.9	96	98	92	90	106
307	4	73.9	100	100	100	100	100
318-A	1	71.7	97	100	83	114	98
O.P.	6	55.7	75	100	102	167	91
313	2	75.4	102	109	105	118	98
332	1	80.5	109	111	119	114	100

IMPORTANT

● The figures under "Yield", "Moisture", "Ear Height", "Root Lodging", and "Stalks Standing", are given in percentages of Pioneer 322, in North Central Iowa, and Pioneer 307 in the Southern half of Iowa. Both these hybrids are assumed to be 100%. Under "Yield" and "Stalks Standing", those hybrids whose percentages are higher than 100% have a higher yield record and have more

standing stalks than Pioneer 322 in North Central Iowa, and Pioneer 307 in the Southern half of Iowa.

Under "Moisture", those hybrids above 100% are later maturing than Pioneer 322 in North Central Iowa and 307 in the Southern half of Iowa. Under "Ear Height", and "Root Lodging", those hybrids below 100% have a lower ear height and less root lodging than Pioneer 322 and 307.



CHOOSE THE CHARACTER

PIONEER HYBRID MATURITY

Pioneer hybrids recommended for the North Central section and the Southern half of Iowa are classified under three groups: (1) early maturing, (2) medium maturing, and (3) late maturing. These groupings are made to meet: first, climatic conditions; second, various soil types and conditions peculiar to the North Central section and the

Southern half of Iowa; third, date of planting; and, fourth, personal demands of the farmers.

The recommendations are based on average temperature and rainfall for the North Central section and the Southern half of Iowa. These two factors, in abnormal seasons, vary the maturity of corn considerably.

STRENGTH OF ROOTS:	Very strong.....	307, 317, 322, 324 330, 331, 335
STIFFNESS OF STALKS:	Very stiff	307, 317, 322, 324 330, 331, 332, 335
SMUT RESISTANCE:	Excellent	313, 317, 322, 330 331, 352, 357
DROUGHT RESISTANCE:	Excellent	307, 313, 317, 322, 352
EAR DROPPING RESISTANCE:	Excellent	307, 313, 314, 315, 318A 322, 331, 332, 349, 357
SIZE OF EAR:	Large	313, 314, 317 318A, 331, 332
DEGREE OF KERNEL DENT:	Rough (moderately)	322, 324, 330 331, 349, 357
EAR HEIGHT:	Low	318A, 322, 324, 330 331, 335, 352
LENGTH OF HUSK:	Long	313, 317, 318A, 322, 324 330, 331, 332, 352, 357



RISTICS YOU WANT

NORTH CENTRAL IOWA

Early Maturing.....357, 352

Medium Maturing.....322, 324, 335, 349, 315

Late Maturing.....311, 311A, 330, 314

SOUTHERN HALF OF IOWA

Early Maturing.....322, 324, 330, 314, 311, 311A

Medium Maturing.....307, 317, 331, 318A

Late Maturing.....332, 313

Strong311, 311A, 314, 352

Stiff311, 311A, 313, 314
318A, 349, 352

Good307, 318A, 324, 332

Good314, 315, 318A, 324, 330
331, 332, 335, 349, 357

Good311, 311A, 317
324, 330, 335

Medium307, 311, 311A, 315, 322
324, 330, 335, 349, 352, 357

Medium307, 311, 311A, 313, 314
317, 318A, 332, 335, 352

Medium307, 311, 311A, 314, 315
317, 357

Medium307, 314, 315, 335

Fair313, 315, 318A,
332, 349, 357

Fair315, 357

Fair311, 311A, 314,
315, 335, 349

Fair311, 311A

Fair352

Small

Smooth315

High313, 332, 349

Short311, 311A, 349



DESCRIPTION OF

LISTED IN ORDER OF MATURITY—EARLIEST FIRST

Pioneer 357 . . .

AVAILABLE IN QUANTITY

Extra early maturing corn; good quality ears that shell out well; good feeding corn; leafy plants; adapted for both machine and hand picking; seems to do particularly well on rich soil; excellent resistance to smut and ear dropping; good drought resistance; fair lodging resistance; moderately rough ears with long husks; medium ear height; short shanks; tendency to sucker on high nitrogen content soil.

Pioneer 352 . . .

AVAILABLE ONLY IN LIMITED QUANTITY

A hybrid which combines outstanding yield and early maturity; adapted for both hand and mechanical picking; excellent resistance to smut and drought; strong roots and stiff stalks; fair resistance to ear dropping; medium dent kernels on average size, wide grained ears with long husks; low ear height.

Pioneer 322 . . .

AVAILABLE IN QUANTITY

General purpose hybrid; excellent for both hand and machine picking; good feeding corn; Banner Trophy winner in 1937; adapted for wide range of soils; small cob and deep kernels; good yield; exceptionally strong roots and very stiff stalks; excellent resistance to smut, drought, and ear dropping; medium size, moderately rough ears with long husks; low ear height.

Pioneer 324 . . .

AVAILABLE ONLY IN LIMITED QUANTITY

High yielding, unusually good feeding corn; excellent for machine picker and hand husking; very strong roots and exceptionally stiff stalks; low ear height; good resistance to smut, drought and ear dropping; medium size, moderately rough ears with long husks.

Pioneer 335 . . .

PRODUCING SMALL QUANTITY OF SEED

Short stalked, leafy plants and low hanging ears; high yielding, fast drying hybrid that shells out well; superior standing ability; very strong roots and unusually stiff stalks; medium dent kernels on long ears with husks of medium length; good resistance to droughts, and ear dropping; may show a weakness for smut in dry years.

Pioneer 349 . . .

AVAILABLE ONLY IN LIMITED QUANTITY

Banner Trophy winner in 1938; leafy plants; excellent ear dropping resistance; fairly strong roots and stiff stalks; good resistance against droughts; may smut in dry years; medium size, moderately rough, deep kernel ears; ears hang slightly high; short husks; susceptible to grain damage in some years.

Pioneer 315 . . .

PRODUCING SMALL QUANTITY OF SEED

High yielding, good hand picking corn; shells out well; seems to do particularly well on thin soil; has lowest moisture content and

ranks second in yield among all commercial hybrids tested in last four years in North Central section of Iowa Corn Yield Test; smooth, average size ears; medium ear height; husks are medium long; fair resistance to root and stalk lodging.

Pioneer 311-A . . .

PRODUCING SMALL QUANTITY OF SEED

Tendency to produce two ears per stalk; dries out rapidly in the fall; especially good corn to hand pick; satisfactory yielding ability; strong roots and stiff stalks; fair drought resistance; may smut in dry years; good resistance against ear dropping; average ear height; medium dent kernels on medium size ears; short husks and long shanks.

Pioneer 311 . . .

PRODUCING SMALL QUANTITY OF SEED

Quick drying corn; excellent for hand picking; strong roots and stiff stalks; good ear dropping resistance; fairly drought resistant; medium dent kernels on average size ears that hang waist high; short husks and long shanks; may smut in dry years.

Pioneer 330 . . .

AVAILABLE ONLY IN LIMITED QUANTITY

Extremely uniform, rough eared hybrid; high yielding ability; exceptionally strong roots throughout season; and very stiff stalks in the fall; may "stalk break" some in mid-season; excellent smut resistance; medium size, deep grained, low hanging ears with long husks; good drought, and ear dropping resistance; especially well adapted for hand and mechanical picking.

Pioneer 314 . . .

AVAILABLE IN QUANTITY

Large eared variety; quick drying, high yielding hybrid; second earliest among all commercial hybrids tested for three years in South Central section of Iowa Corn Yield Test and ranks third in yield in the same group; high shelling percentage; good feeding corn; satisfactory for both hand and machine picking; medium dent kernels; excellent ear dropping resistance; strong roots and stiff stalks; susceptible to leaf smut; resistant to ear smut; good drought resistance; medium ear height and medium length husks.

Pioneer 307 . . .

AVAILABLE IN QUANTITY

General purpose hybrid; very high yielding record; placed first in "General Performance" in Districts 8, 10, and 12 in the 1938 Iowa Corn Yield Test; adapted to most soils; good feeding corn; suitable for both hand and machine picking; small cobs and deep kernels; abundant foliage for silage and fodder; excellent resistance against lodging, drought, and ear dropping; good resistance against smut; medium dent kernels on ears with medium long husks; medium but not very uniform ear height.

Pioneer 317 . . .

PRODUCING SMALL QUANTITY OF SEED

Large, heavy eared hybrid; medium low ear height; satisfactory yield record; equally suitable for hand and mechanical picking;



PIONEER

EACH VARIETY

excellent standing ability; very sturdy roots and hardy stalks; excellent smut and drought resistance; good ear dropping resistance; medium dented kernels; long husks.

Pioneer 331 . . .

AVAILABLE ONLY IN LIMITED QUANTITY

Large, moderately rough ears with long husks; low ear height; excellent smut and ear dropping resistance; especially strong roots and very stiff stalks; good drought resistance.

Pioneer 318-A . . .

PRODUCING SMALL QUANTITY OF SEED

Large ears with long husks; medium dented kernels; low ear height; excellent ear dropping resistance; fairly strong roots and stiff stalks; good smut and drought resistance.

Pioneer 313 . . .

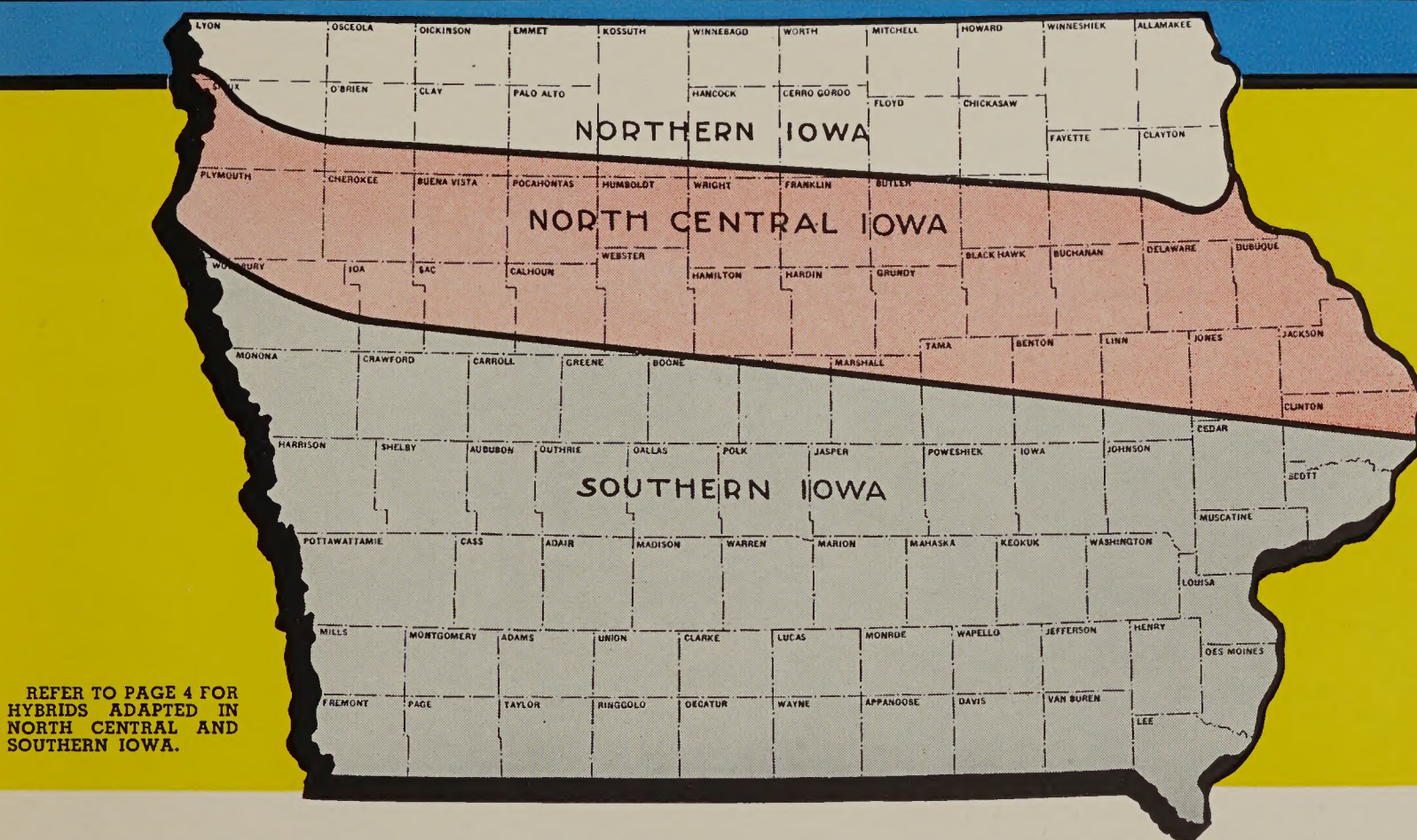
AVAILABLE ONLY IN VERY LIMITED QUANTITY

Dark green, dressy looking hybrid; large, showy ears of very good quality corn; medium dented kernels; was first in both "General performance and yield in the South Central section of the 1938 Iowa Corn Yield Test; stiff stalks and fairly strong roots; excellent smut, drought, and ear dropping resistance; ears slightly high but very uniform; long husks.

Pioneer 332 . . .

PRODUCING SMALL QUANTITY OF SEED

A high yielding, late maturing corn; large ears with long husks; medium dented kernels; very stiff stalks and fairly strong roots; excellent ear dropping resistance; good resistance against smut, and drought; ear height little above average.



PIONEER

Pioneer Record in the Official

NORTHERN SECTION

Refer to special Northern Iowa Edition of "Golden Harvest" Booklet for records in the Northern Section

NORTH CENTRAL SECTION

PIONEER No.	Average for Years	Bushels Per Acre	Moisture Content	Lodging Grade
315	1935-36-37-38	66.57	21.0	2.1
Avg. hybrid	1935-36-37-38	63.89	22.5	1.8
Avg. O.P.	1935-36-37-38	56.48	21.1	2.7
315	1936-37-38	67.50	20.5	2.3
322	1936-37-38	67.26	20.4	1.7
Avg. hybrid	1936-37-38	65.65	21.8	1.9
Avg. O.P.	1936-37-38	57.44	20.2	2.8
314	1937-38	79.95	22.3	1.8
315	1937-38	77.90	21.2	1.9
322	1937-38	76.48	20.1	1.5
Avg. hybrid	1937-38	75.90	21.8	1.7
Avg. O.P.	1937-38	67.79	19.6	2.4
314	1938	84.56	19.2	1.6
322	1938	82.80	16.5	1.3
315	1938	81.85	17.3	1.8
Avg. hybrid	1938	82.24	18.5	1.6
Avg. O.P.	1938	72.82	16.7	2.3

PIONEER 322 won the Banner Trophy in 1937.
PIONEER 315 won the Banner Trophy in 1935.

SOUTH CENTRAL SECTION

307	1936-37-38	63.29	17.3	1.9
314	1936-37-38	61.11	16.4	1.8
Avg. hybrid	1936-37-38	59.54	17.2	1.8
Avg. O.P.	1936-37-38	50.40	17.2	2.5
307	1937-38	76.45	17.1	1.5
317	1937-38	73.68	17.3	1.6
314	1937-38	73.33	16.1	1.6
Avg. hybrid	1937-38	72.81	16.8	1.7
Avg. O.P.	1937-38	63.44	16.9	2.2
*313	1938	83.55	18.0	1.5
307	1938	79.10	15.6	1.4
314	1938	74.50	14.2	1.5
317	1938	70.88	15.9	1.5
Avg. hybrid	1938	72.84	15.3	1.5
Avg. O.P.	1938	64.99	15.7	2.2

*FIRST in yield and "general performance" among all commercial hybrids tested in this Section in 1938.



PIONEER

1938 Iowa Corn Yield Test

SOUTHERN SECTION

PIONEER No.	Average for Years	Bushels Per Acre	Moisture Content	Lodging Grade
*307	1936-37-38	60.81	15.8	1.8
Avg. hybrid	1936-37-38	57.22	16.0	2.0
Avg. O.P.	1936-37-38	46.00	16.0	2.5
‡307	1937-38	76.05	14.8	1.8
314	1937-38	75.70	13.3	2.1
‡317	1937-38	73.61	14.4	1.8
Avg. hybrid	1937-38	72.46	14.6	2.0
Avg. O.P.	1937-38	59.54	15.1	2.5
313	1938	76.01	15.0	1.9
307	1938	75.73	12.8	1.8
314	1938	72.58	11.7	2.0
317	1938	69.55	12.4	1.8
Avg. hybrid	1938	70.16	12.8	2.0
Avg. O.P.	1938	57.17	13.0	2.5

*FIRST in yield and best lodging resistance grade among all commercial hybrids tested for 3 years (1936-37-38) in this Section.

‡FIRST in lodging resistance among all commercial hybrids tested for 2 years (1937-38) in this Section.

Avg. O.P.—Average open-pollinated corn.

LODGING GRADE—The lowest figure indicates the best resistance to lodging.

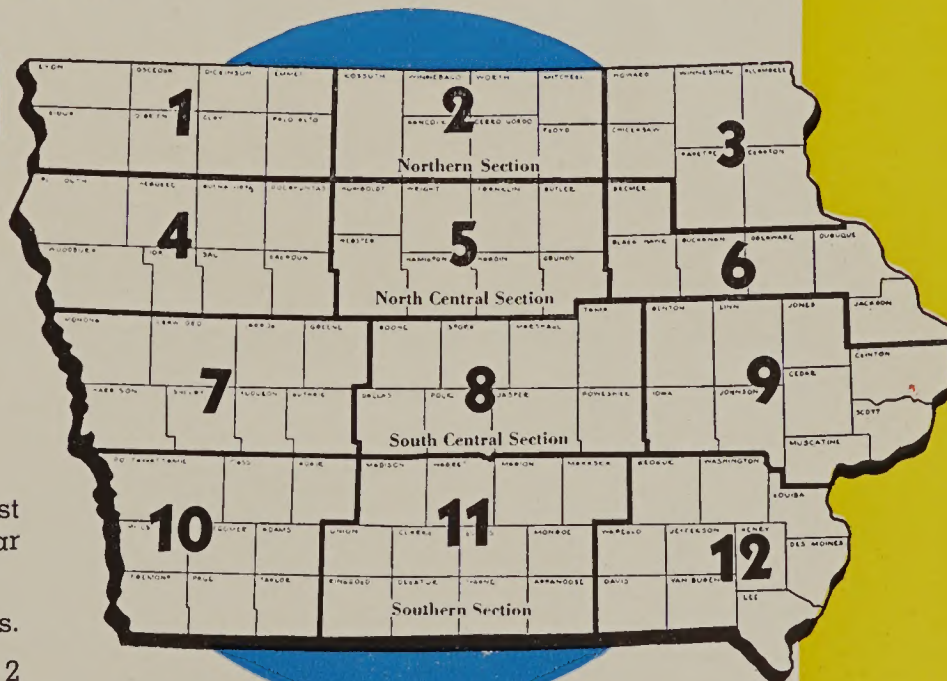
1938 IOWA CORN YIELD TEST

- Over 50 different producers and growers made 1,110 entries in the 1938 Iowa Corn Yield Test. Thirty-nine of the 1,110 entries were Pioneer hybrids.

The Iowa Corn Yield Test divides the state into 4 sections and 12 districts . . . 3 districts in each section.

PIONEER RECORD

- Pioneer won the Banner Trophy for the highest "General Performance" score among all regular section entries.
- Pioneer was first in yield in 2 of the 4 sections.
- Pioneer was first in "General Performance" in 2 of the 4 sections.
- Pioneer was first in "General Performance" in 6 of the 12 districts.
- Pioneer has the highest yield of any regular section entry having an average of 3, 4, and 5 years.



Pioneer Was First to Offer A Replanting Agreement

BANNER TROPHY



- Pioneer won the Banner Trophy in 1938.
- Pioneer won the Banner Trophy in 1937.
- Pioneer has won the Banner Trophy twice in the last two years when hybrid competition has been the keenest.
- Pioneer has won the Banner Trophy 9 times in 14 years.
- Pioneer is the only commercial producer of hybrid seed corn that ever won the Banner Trophy.

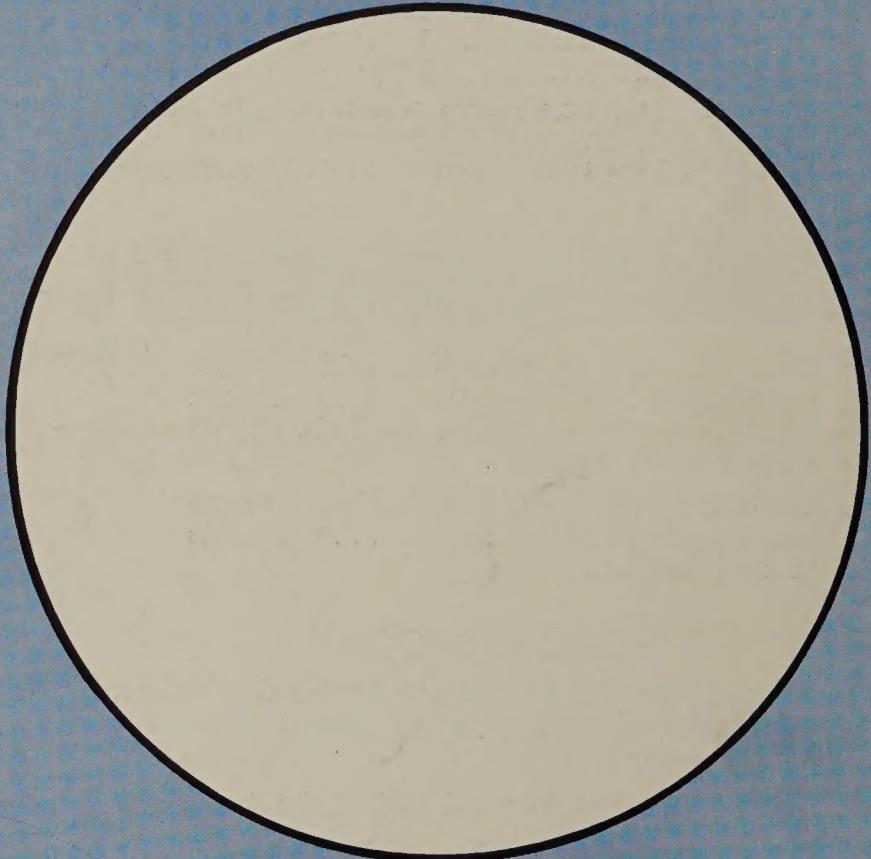
REPLANTING AGREEMENT

If, because of cutworms, floods or ANY other reason the stand of corn upon any field planted with PIONEER corn shall be so impaired or diminished that the customer discs up and replants it to corn, we will furnish him free of any charge except transportation costs, a quantity of PIONEER seed equal to that required for such planting. To take advantage of this benefit all the customer needs to do is to notify in writing the Company or its sales representative through whom the seed was purchased in time to permit inspection of the field before it is disced up.



If we have no seed of suitable maturity available for replanting, we reserve the right to furnish an equal amount of PIONEER seed FREE for 1941 planting.

PIONEER HI-BRED CORN COMPANY
Des Moines, Iowa



PIONEER HI-BRED CORN COMPANY

1011 Locust Street, Des Moines, Iowa

FOR PRICE AND ADDITIONAL INFORMATION WRITE TO ABOVE ADDRESS
OR SEE YOUR LOCAL PIONEER REPRESENTATIVE